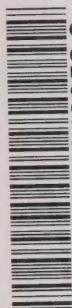


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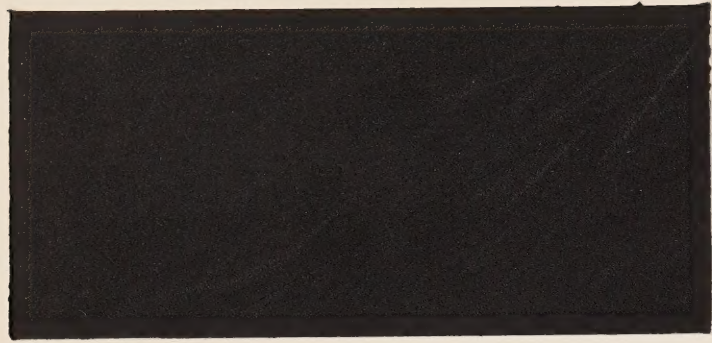
GENERAL AVIATION

IN THE TORONTO AREA

ORD 115



*Civil Aviation Branch*



## A STUDY OF

## GENERAL AVIATION

IN THE TORONTO AREA

IN THE TORONTO AREA

ORD 115

PREPARED BY  
AVIATION PLANNING AND RESEARCH DIVISION  
CIVIL AVIATION BRANCH

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## ABSTRACT

The general aviation study carried out in the Toronto Area in June and July 1968 revealed the existence of sixty-three airports and aerodromes. Thirteen of the airports accounted for 731 (83%) of the based aircraft and 96% of the general aviation movements. Nine of these airports had surveys conducted by the team.

The study indicates that 91.7% of the traffic movements in the Toronto Area is general aviation. It was found that 5% to 15% of the surveyed flights were for business, while training and pleasure combined made up 80% to 90% of the activity. Between 25% and 30% of the aircraft surveyed were I.F.R. equipped and 10% to 20% of the pilots were instrument rated.

A figure of 8% annual increase was selected as a probable average growth rate. The forecast indicates that the present area airport system will reach capacity by approximately 1975. The proportion of general aviation movements in the area will increase from 91.7% of the total in 1967 to 95.4% in 1982.

The thirteen airports which account for the majority of the traffic, should be used as a basis for the development of a system of airports based on the type of use, e.g. Air Carrier, General Aviation Itinerant and General Aviation Training. Further planning will be required at each of the airports to develop them in line with their classification. The operators of the airports should be brought into the planning process so that they are aware of the expected demand and the development which will be required to meet it. The municipalities surrounding the airport should be encouraged to apply compatible land use zoning to protect the airport for future development.

## ABSTRACT

The general aviation study carried out in the Toronto Area in June and July 1966 revealed the existence of sixty-three airports and aerodromes. Thirteen of the airports accounted for 731 (93%) of the based aircraft and 86% of the general aviation movements. Nine of these airports had surveys conducted by the team.

The study indicates that 91% of the traffic movements in the Toronto Area is general aviation. It was found that 5% to 15% of the surveyed airports were for business, while training and pleasure camps made up 80% to 90% of the activity. Between 25% and 30% of the aircraft surveyed were P.R. equipped and 10% to 10% of the pilots were licensed pilots.

A figure of 8% annual increase was selected as a probable average growth rate. The forecast indicates that the present two airport system will reach a level of 100,000 movements per year by 1982. From 1970 to 1982, the forecasted increase is 100%.

The first airport was selected for the majority of the study as a basis for the development of a two airport system based on the type of use, e.g. Air Canada, General Aviation, Commercial and General Aviation. Further planning will be required at each of the airports to develop them in line with their classification. The operators of the airports should be brought into the planning process so that they are aware of the expected demand and the development which will be required to meet it. The municipalities surrounding the airport should be encouraged to apply compatible land use zoning to protect the airport for future development.

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## INTRODUCTION

This study was requested by the Aviation Systems Planning Group to provide information on the Toronto Area airports which, in conjunction with the Master Plan Study of Toronto International Airport, will provide a base for planning the development of aviation facilities for the Toronto Area.

The selection of the "Toronto Area", as referred to in the study, is an arbitrary one. A rough rule of thumb was used, based on the area within approximately one hour's driving time from Toronto International Airport. Airports and strips contained in this area were considered to be in the "Toronto Area".

The term "general aviation" as used in this report includes all civil flying except that performed by major scheduled air carriers operating large aircraft on scheduled service.

General aviation flying embraces a multitude of diverse uses of aircraft. In this report these activities have been divided into five major categories; charter operations, business flying (corporate, private or government), training or instructional flying, pleasure flying and aerial work (crop dusting, pipe-line patrol, timber cruising, etc.).

The various activity groupings were defined as follows:

1. Business flying is the use of personal, corporate or chartered aircraft either directly for some business purpose or as a substitute for air carrier transportation to or from a place where business will be transacted.
2. Charter operations include transportation of passengers and cargo for hire. Whether conducted on a schedule basis or as small group pro rata charters, these movements are essentially supplemental to air carrier operations. In the United States this grouping is usually referred to as air taxi.



3. Pleasure flying includes transportation in personally owned or rented aircraft for recreational purposes, such as air touring and other vacation trips.
4. Training flying includes those flights whose primary purpose is instructional or practice and not transportation from place to place. This category constitutes primarily flights which are classified as local in tower counts.
5. Aerial Work consists primarily of non-transport operations and includes such activities as survey, search and rescue, police patrol, news coverage, aerial application, fire fighting, and supply to offshore and other remote locations.

In the general aviation study, a local movement is defined as a movement in which the aircraft has not landed or does not intend to land at another airport or land or water aerodrome. An itinerant movement is a movement made by an aircraft which has taken off from or is intending to land at another airport or aerodrome.

Also in the general aviation study an arrival is defined as a movement in which the airplane lands, shuts down, and the pilot disembarks.



TERMS OF REFERENCE

Conduct a study in Toronto Area to:

1. Determine the type and level of general aviation activity.
2. Classify present general aviation airports.
3. Determine facility and airport requirements for future general aviation activities.
4. Identify most suitable areas for development of new general aviation facilities.
5. Identify future possible third level commuter airports.



## METHOD OF STUDY

### A. General Aviation Airports in the Toronto Area (Population Studied)

In the Toronto Area there are sixty-three general aviation airports ranging in size from small grass strips with only one aircraft to Toronto International Airport which reported 91,841 general aviation movements in 1967.

Twenty-seven of the aerodromes in the area are small grass strips which are privately owned and have only one based aircraft. Another fifteen aerodromes have 2 to 5 based aircraft and are privately-owned single grass strips. These small private aerodromes make up two-thirds of the total number of airports in the area.

Eight other aerodromes, half of which were privately licenced, had 6 to 20 based aircraft which operated off dual intersecting grass strips. The remaining thirteen aerodromes which had more than 20 based aircraft have lighted asphalt runways. Ten hold a public airport licence and three have a private airport licence. Of these thirteen airports, 4 are owned by municipalities, 3 are owned by various commissions, two are owned by the federal government, and four are privately owned. (See also Table 1.)

### B. Choice of Sample

The following airports were chosen to be surveyed: Brantford, Buttonville, Guelph, Hamilton, Oshawa, St. Catharines, Toronto Island, Toronto International and Waterloo-Wellington (see Table 1). These airports were chosen because of the large number of based aircraft and large movement figures compared to other airports in the Toronto Area. These nine airports had 596 (67%) of the 883 aircraft based in the Toronto Area and generated 92% of the general aviation movements in the area in 1967.

Four airports which had a large number of based aircraft - Brampton (35), Welland (23), Downsview (26) and Maple (36), were not surveyed.

Brampton was not surveyed because it was to be closed in the fall of 1968. Welland had a low level of



activity when it was visited, and it was decided that too few movements would be generated in a four-day study for an adequate sample. Downsview is primarily a military airport. At Maple, after talking to the airport manager, it was decided that almost all activity consisted of local pleasure and local training both of which could be estimated.

The nine airports surveyed plus the four large airports not surveyed account for 731 (83%) of the based aircraft and 96% of the general aviation movements.

All nine airports were licenced and all runways at each airport were paved. All the airports had unicom, except Toronto International, Toronto Island and Toronto Buttonville which have control towers. All the airports had N.D.B.'s except Guelph, Brantford and Buttonville. The latter two are in the process of having N.D.B.'s installed.

Some other smaller airports were also visited briefly to provide an estimate of general aviation activity at airports with only a few based aircraft. Fixed based operators were interviewed at the nine airports that were surveyed as well as at other airports which were visited.

### C. Survey Methods

The method of survey was similar to that used in the Vancouver General Aviation Study. (See ORD 106.) Two distinct surveys were carried out at the airports: an aircraft arrivals survey and an aircraft operators survey. Pilots who landed and got out of their aircraft during the survey time were requested to complete the aircraft arrivals questionnaire. (See Appendix A.) Commercially licenced aircraft operators were interviewed and asked to fill out the operators questionnaire. (See Appendix A.) Four-day studies, which included a weekend, were carried out at all the airports surveyed.

For the purpose of this survey, the Toronto Area was divided into three subareas - Toronto, Hamilton, and the Niagara Peninsula.

The Hamilton subarea, which included Guelph, Waterloo, Wellington, Brantford and Hamilton airports, was surveyed from June 15 to June 18.



The Niagara Peninsula and Welland airports were surveyed from June 20 to June 23.

The Toronto subarea which included Toronto Island, Toronto International, Buttonville, and Oshawa airports, was surveyed from July 20 to July 23.

D. Analysis of Data

Survey results were tabulated and analysed to provide a picture of general aviation in the Toronto Area. Details of results will be found in Appendix B. Data from other sources was also used. Airport capacities, where shown, are based on an average peak hour delay of 2 minutes for departing aircraft, single runway operations, and present runway layouts and aircraft population mixes.



AIRPORT	TOTAL MOVEMENTS 1967	NO. A/C BASED	SAMPLE SIZE	% TRAINING	% PLEASURE	% BUSINESS	% TRAINING & LOCAL	% PLEASURE & LOCAL	% ITINERANT	% IFR EQUIP. A/C	% INST RATE PILOT
BRAMPTON	5,967 Est	35									
BRANTFORD*	25,895	26	87	32	59	9	93	47	41	30	5
BUTTONVILLE*	157,028	158	355	54	36	7	92	59	26	25	17
DOWNSVIEW	4,563 Est										
GOELPH*	30,000 Est	43	102	33	55	4	88	63	33	30	47
HAMILTON*	154,682	129	267	43	37	12	95	60	30	34	12
OSHAWA*	67,519	100	123	59	25	14	65	25	51	28	13
ST.CATHARINES*	35,713	22	98	24	54	12	88	68	39	37	13
TORONTO ISLAND*	240,339	72	314	57	25	11	95	61	26	21	
TORONTO INTL*	91,841 (G.A.only)	95	159	15	19	54	67	23	79	87	78
TORONTO MAPLE	25,064 Est	51									
WATERLOO- WELLINGTON*	160,665	59	185	42	44	9	81	53	40	34	16
WELLAND	15,570	23									

\* Airports Surveyed

TABLE 1

THE 13 LARGEST AIRPORTS IN THE TORONTO AREA



SOURCES OF DATA AND BIBLIOGRAPHY

Ontario Regional Office, Toronto.

Aircraft Movement Statistics, Airports with  
Air Traffic Control Towers, Annual Report,  
1966, 1967.

Aviation Statistics Centre,  
Ottawa.

Aircraft Movements at Airports Without  
DOT Towers, 1965, 1966, 1967.

Aviation Statistics Centre,  
Ottawa.

Air Transportation Statistics and Forecasts,  
June 1968.

DOT, Ottawa.

The Canada Air Pilot - East Volume.

Canadian Aviation - 1968 Aviation Directory of Canada,  
April 1968, (Vol. 41, No. 4).

MacLean-Hunter Publications.

Directory of Canadian Commercial Air Services.

Air Transport Committee, Ottawa.



DOT Air Traffic Control Division, Daily Air  
Traffic Records, July 20-23, 1968, at  
Buttonville, Toronto International, and  
Toronto Island Airports.

Fostair Pilots Guide to Canada, 1967.

Fostair Aviation Enterprises Ltd.,  
Toronto, 1967.

Ontario Flying Farmers Airstrips.

Fostair Aviation Enterprises Ltd.,  
Toronto, 1967.

ORD 106, A Study of General Aviation at Vancouver

Civil Aviation, CRP,  
November, 1967.

1967-68 Survey of Markets and Business Year Books,  
43rd Edition. (Financial Post).

MacLean-Hunter Publications.



### PRESENT LEVEL OF ACTIVITY

The level of general aviation activity in the Toronto Area has been estimated for 1967 to be 1,045,000 movements. This figure was determined from movements data for each of the 63 sites in the area. This data may be categorized into several levels of reliability.

- a) Movement figures from the three airports in the area operating with D.O.T. towers in 1967, Buttonville, Toronto International and Toronto Island Airports. For Toronto International the Scheduled Airline Movements were not included in the figures used.
- b) Movement figures reported by airports without D.O.T. towers: Brantford, Hamilton, Oshawa, St. Catharines, Waterloo-Wellington, and Welland. (See Table 1.) The nine reporting airports accounted for 949,252 of the total movements, or 91%.
- c) The airports at Guelph, Markham, and Toronto Maple were estimated separately since visits to these sites indicated a higher level of activity than estimates on based aircraft would have yielded. They accounted for 72,251 movements, only 7% of the total.
- d) Movements estimated for about 50 aerodromes and farm strips which do not report, were based on expected utilization of privately owned aircraft in movements per summer weekday, per weekend day, with a factor to account for winter activity as 1/2 of the summer activity. The estimated movements for these sites accounted for only 2% of the total estimated movements for the Toronto Area, and even if wrong by a factor of two would have little effect on the final estimates.

This level of activity indicates that in 1967 general aviation accounted for 91.7% of the aircraft movements in the Toronto Area.

A study of the number of based aircraft versus the total annual traffic (Table 1) and the number of hours flown annually by the fixed based operators at various



airports, tended to indicate that the annual movement figures reported for Waterloo-Wellington appeared to be higher than would normally be expected. This was discussed with the Aviation Statistics Centre.

The Centre indicated that they had investigated this matter in November 1967 and had discovered that there was some difference in the reporting techniques used at Waterloo-Wellington compared to other airports in the area.

The figures reported at Waterloo-Wellington for the first six months of 1968 using a standardized reporting technique show a significant reduction from the previous year. In 1967 the figures for January to June were 78,593 movements, while in 1968 for the equivalent period they were 41,253.



## PRESENT TYPE OF ACTIVITY IN THE TORONTO AREA

General aviation activity in the Toronto Area was observed from two points of view. From the survey of arriving pilots the types of use of general aviation aircraft were determined. The operators questionnaire provided information on commercial operations in the area.

With the exception of Toronto International, all airports which were surveyed showed similarities in the type of activity by use of aircraft. (See Table 1.)

It was found that 5% to 15% of the surveyed flights were for business, while training and pleasure combined made up 80% to 90% of the activity. The percentage of training and percentage of pleasure varied with the total number of movements.

For airports with 50,000 or less movements in 1967, training made up 20% to 30% and pleasure made up 50% to 60% of the total arrivals. Airports having over 50,000 movements in 1967 had 40% to 60% training arrivals and 30% to 40% pleasure arrivals.

Training flights were 85% to 95% local at all surveyed airports, while pleasure flights were between 50% and 60% local with the exception of Oshawa (25% local pleasure) and St. Catharines (68% local pleasure).

Between 25% and 30% of the aircraft surveyed were IFR equipped. From 10% to 20% of the pilots had an instrument rating with the exception of the pilots surveyed at Guelph who were 47% instrument rated and Brantford with 5%. Generally on Sundays the total number of movements was greatest, with a large increase in pleasure flying.

Results from the survey at Toronto International indicate that it is mainly a business airport for general aviation and hence has a very different type of activity than other airports in the Toronto Area. For a discussion of the general aviation activity at Toronto International see Appendix B.



### FUTURE LEVEL OF ACTIVITY

As was noted in ORD 106 "A Study of General Aviation in Vancouver", only forecasts on an area basis can hope to have any validity when several airports are in close enough proximity for each to interact with the others. The ideal forecast situation for an area is one in which past historical data for the entire area and relevant economic growth and income data for the entire area and any subregions, are available.

Unfortunately for the Toronto Area such data, especially accurate historical data over a sufficiently long period, is totally nonexistent. While many of the airports in the area are now reporting movements, for most of them the reporting was started less than five years ago.

At present the Toronto Area has 18.5% of the population of Canada, 21% of the retail sales and 22% of the disposable income, indicating that as a whole the area is economically slightly above the national average. The area, however, is largely urban and it is not clear whether in general it is above what might be called the national urban average. According to the 1967 survey of markets, the County of Peel in West Metro Toronto is one of the fastest growing areas in the country. However, this growth may be countered by a slower than average growth in some of the other areas around Toronto.

There are 883 aircraft based in the Toronto Area. In the forecast that follows, a forecast in which general aviation activity is broken only into local and itinerant movements, it is assumed that growth will follow the national trend as far as based aircraft are concerned, and that the number of movements generated per based aircraft will remain unchanged over the forecast period. Least squares analysis of the numbers of aircraft registered in Canada for the fifteen years, 1952-1966 inclusive, indicates an average growth rate of 9.3%. Regression analysis gave a 99.4% correlation for this 9.3% growth fit. It should be noted however, that an exponentially decreasing growth rate gave a 99.3% fit and indicated a growth of 6% for the next 3 years, falling to 5% for 4 years after and so on. (Last 5 years growth 8.5%.)

A figure of 8% annual increase was therefore selected as a probable average growth rate.



The total level of activity forecast for the next 15 years at 8% gives:

for 1972 a figure of 1,535,105;  
for 1977 a figure of 2,256,155;  
and 1982 a figure of 3,314,740.

It cannot be overemphasized that this projection is not based on regional historic or economic data and forecasts, but represents only a projection of the national past trend with a slight modification for heuristic reasons.

A comparison of the area general aviation aircraft movements and the scheduled aircraft movements for 1967 and for 5 year periods up to 1982 is shown in Table 2.

TABLE 2

Toronto Area  
Ratio of General Aviation Movements and  
Scheduled Movements to Area Movements

	<u>Gen. Av.</u>	<u>%</u>	<u>Sched.</u>	<u>%</u>	<u>Total</u>
1967	1,045,000	91.7	94,081	8.3	1,139,081
1972	1,535,105	92.9	115,931	7.1	1,651,036
1977	2,256,155	94.2	139,065	5.8	2,395,220
1982	3,314,740	95.4	158,410	4.6	3,473,150

It is interesting to note the striking similarity of the relationships between general aviation and scheduled movements in the Toronto Area and those found in the Vancouver Area. (ORD 106)



## FUTURE GENERAL AVIATION REQUIREMENTS IN THE TORONTO AREA

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It has become obvious from studies of large metropolitan areas that, where there is more than one airport in an area, the airports must be considered as a system since developments at one airport influence developments at the other airports.

Therefore, the objective of any plan for development of general aviation facilities and airports should be the planning of a regional system of airports with the special type of facilities required at each airport for the type of use envisaged for that airport within the context of the total system.

As traffic increases in the future, it will be necessary to classify airports in a metropolitan area by the type of use which will be encouraged at each site. This will be required to provide a separation of the different classes of aircraft and operations so that the optimum use may be made of the facilities at each airport.

The present airport classification system as outlined in the Air Services Objectives and Policies Manual has some drawbacks when one attempts to apply this concept. Although, if some latitude is used in interpretation, it could be possible to use present classifications.

For the purposes of this study, the airports are categorized by what were considered to be the primary activities that should be supported at each site.

- a) Air carrier operations airport
- b) General aviation itinerant airport
- c) General aviation training airport

An outline of the type of activity which would be encouraged at each airport so categorized is as follows:

An air carrier airport is an airport where the prime users will be scheduled air carriers including both passenger and cargo traffic. Subsidiary traffic such as large aircraft charter flights and air taxi type flights, would also be given access to the airport on a continuing basis. Some general aviation corporate operators, whose aircraft are compatible with those of the prime users, would be allowed under circumstances where no reasonable alternative airport is available.



A general aviation itinerant airport is an airport whose prime users would be business/corporate operators. Other general aviation operations such as aerial work, small aircraft charters and pleasure itinerant would also be encouraged to operate from the airport. Only a minor amount, if any, ab initio training should be encouraged. It might be anticipated that with the installation of adequate IFR facilities at this type of airport, a third level commuter type service would probably emerge.

A general aviation training airport would be an airport whose prime users would be training schools, clubs and private aircraft owners whose operations would be mainly training, pleasure and private business flying.

The Toronto Area is presently served by a good system of general aviation airports which have been adequate for present purposes with a minimum of expenditures. Table 4 shows the nine airports surveyed and the services which have been provided or are in the planning stage at this time. The movements at these airports plus those at Maple, Markham and Welland accounted for 98% of the general aviation traffic in the Toronto Area in 1967. It might therefore be assumed that these airports will receive the majority of the traffic in the future and that the planning should be concentrated here.

Downsview Airport has not been included since, for various reasons, the Ontario Regional Office has recommended that it would not be a suitable general aviation airport.

The forecast of general aviation movements for the Toronto Area as outlined in "Future Level of Activity", page 13, is

<u>Year</u>	<u>Movements</u>
1972	1,535,105
1977	2,256,155
1982	3,314,740

A comparison of 1967 movements with the theoretical annual capacity of 12 area airports is as follows:

	<u>1967 Movements</u>	<u>Theoretical Capacity (Annual)</u>
Brantford	25,892	165,000
Buttonville	157,028	250,000
Guelph	30,000	150,000
Hamilton	154,682	220,000

(contd)



AIRPORT	TOWER	MET	RADIO AIDS	CUSTOMS	LIGHTING	REMARKS
Brantford Move. 25,892	Programmed 1971-72	-	NDB Aug. 68	Avail. Tourists	On Request	NDB reported to be erratic and poorly located
Buttonville 157,028	yes	-	NDB Aug. 68	Avail.	On Request	
Guelph 30,000	-	-	-	Avail.	On Request	
Hamilton 154,682	Nov. 1968	-	NDB	Avail.	On Request	
St. Catharines 35,713	Programmed 1969-70	-	NDB	Avail.	On Request	
Toronto Isl. 240,339	Yes	Yes	NDB	Avail	On Request	
Toronto Intl. 91,841	Yes	Yes	All	Avail	Avail	
Waterloo- Wellington (Kitchener) 160,665	Mar. 1969	Yes	NDB	Avail.	On Request	

AVIATION FACILITIES INSTALLED OR PLANNED



(contd)	<u>1967 Movements</u>	<u>Theoretical Capacity (Annual)</u>
Oshawa	67,519	165,000
St. Catharines	35,713	155,000
Toronto Island	240,339	210,000
Toronto International	91,841	*100,000
Waterloo=Wellington	160,665	175,000
Maple	25,064	150,000
Markham	16,000	120,000
Welland	15,570	150,000
		<u>2,010,000</u>

\* A constant of 100,000 Movements is given for TIA since the General Aviation activity level will depend on the policy applied.

TABLE 3

It will be seen that when the general aviation movements forecast for the Toronto Area are compared to the theoretical capacities of the airports, the capacity of the present system will be reached by approximately 1975-76.

This of course assumes that as the demand at a particular airport reaches its capacity, any further traffic would go to another airport. This will not necessarily be true as can be seen from the statistics for Toronto Island Airport. The demand at Toronto Island (1967: 240,339) already exceeds its theoretical capacity (210,000). Since the theoretical capacity assumes an average delay of two minutes, it is obvious that operators at this airport are willing to accept a higher average delay at peak periods. This would probably be true at other general aviation airports with a similar type of traffic.

In effect this means that the theoretical capacities outlined in Table 3 could be lower than the rate which may be achieved.

The theoretical capacities should therefore only be used as a planning tool and not as a definitive figure.

In terms of overall area capacity, the airport system is in no immediate danger of becoming saturated. There are some airports, however, which are at or approaching theoretical capacity such as Toronto Island, Buttonville and Hamilton. Although on Table 4 Waterloo-Wellington appears to be near capacity, the movements for 1967 are believed to be too high, as discussed under "Present Level of Activity".



A suggested categorization of Toronto Area airports is as follows:

Air Carrier Airports

Toronto International Airport

General Aviation Itinerant Airports

Buttonville  
Hamilton  
Oshawa  
St. Catharines  
Waterloo-Wellington

General Aviation Training Airports

Brantford  
Guelph  
Toronto Island  
King City  
Maple  
Markham  
Welland

Air Carrier Airports

Toronto International Airport

At present, Toronto International is the only airport in the area which could be classed as an air carrier airport. The planning for this airport is being carried out by the Toronto Project Team. The effects of the planning by the project team will be influenced by the policy which is adopted toward general aviation at Toronto International. If general aviation is allowed unrestrained growth in all its types of activity, then general aviation would grow to a much higher level of operation than air carrier. This would necessitate additional costly facilities.

A process of limiting general aviation training has of course already been carried out at this airport. Much general aviation pleasure and business itinerant could also be encouraged to go elsewhere. Many itinerant aircraft now land at Toronto International Airport and



clear Customs before proceeding to Toronto Island Airport, not knowing that Customs facilities are available at the Island Airport, some not knowing that Island Airport exists.

In 1967, 16,543 simulated instrument approaches were carried out at International because this was the only airport in the area where facilities are available. If an I.L.S. were installed at another airport in the area most of these operations could be carried out there.

A policy towards general aviation should therefore have the objective of encouraging unnecessary general aviation activity at Toronto International Airport to go to other area airports.

### General Aviation Itinerant Airports

#### Buttonville

This airport has been developed in its entirety by private interests. At the moment it is primarily oriented toward training activities. In the future, however, it would be in a good location to serve general aviation itinerant traffic in the northeast corner of Toronto.

The airport operators have plans for further development of the airport to add a longer runway and more ground facilities. This will of course require capital. The operators' preference was that they would like to continue development on their own. It would be in the Department's interest to assist the operators (not necessarily financially), since the development of adequate facilities at this location would provide alternative facilities to offload Toronto International. The development of this airport as an I.F.R. itinerant airport should be encouraged. Therefore, one of the future requirements at Buttonville would be an I.L.S.

#### Hamilton (Mount Hope)

A projection of the reported movement rate of 154,682 for 1967 at 8% per year would indicate that Hamilton Airport would reach its theoretical annual capacity in 1972-73. Further development of this airport as an itinerant general aviation airport with I.F.R. capability should be supported as required.



It will be necessary to determine what additional facilities will be required at Hamilton to increase its capacity for the long-term future planning. One of the major requirements will be the application of compatible land use zoning to protect the runway approaches.

For the short term, a control tower for Hamilton is programmed for November 1968. In addition, Hamilton is recommended as the location where an I.L.S. and associated facilities should be installed as soon as possible to provide I.F.R. approach facilities away from Toronto International. This would also encourage corporate operators from the area to base at Hamilton rather than at Toronto International.

Hamilton is recommended as first priority for an I.L.S. since it already has a sufficiently long runway and is centrally located within the area.

With an increase in I.F.R. activity there would be a further requirement for a weather briefing office at the airport.

#### Oshawa

Oshawa Airport has a higher level of itinerant traffic than the other general aviation airports in the area. However, the present facilities are adequate for the present total level of traffic at the airport. With the addition of an air traffic control tower which is programmed for 1969-70, the facilities will be adequate until about 1976-77. Additional development at this airport will depend on the prevention of further encroachment of residential buildings on the approaches to the runways.

#### St. Catharines (Niagara District)

The St. Catharines Airport facilities are adequate for the present level of traffic. A tower is programmed for the airport for 1970-71. A relatively large amount of itinerant traffic uses the airport. This itinerant traffic is expected to increase considerably, particularly with the advent of the Royal Air scheduled service. An I.L.S. will be required by 1972-73 to provide an I.F.R. airport for the Niagara Peninsula. Compatible land use zoning will also be required at this airport to protect the approaches.

#### Waterloo-Wellington

The situation regarding aircraft movement statistics at this airport has already been discussed under "Present



Level of Activity". A tower is programmed for Waterloo-Wellington by March 1969. An N.D.B. approach procedure is already authorized for this airport and meteorological briefing is available at the field. With the addition of an I.L.S. and a runway extension, this airport should be capable of meeting the demand until 1976. This airport is in an ideal location to serve the Kitchener, Guelph and Galt areas for the future. Further development should be encouraged as the demand increases.

### General Aviation Training Airports

#### Brantford

Brantford is mainly a training airport with a relatively low level of activity. Its rate of growth will likely be less than the area average. With the addition of the N.D.B. installed this year and the tower programmed for 1971-72, the airport should be adequate until 1980.

#### Guelph

This airport is privately owned and its operation is mainly oriented to the aircraft owners based at the airport and to the training school operator. The airport is capable of limited expansion which the operators would carry out themselves. If good I.F.R. capability is developed at Waterloo-Wellington, the proximity of the airports would reduce the requirement for I.F.R. capability at Guelph.

#### Toronto Island

Toronto Island Airport is presently operating above its theoretical annual capacity. Because of its location and limited area available, there is little that can be done to improve the capacity of the airport. The Toronto Harbour Commission has proposed development of an alternate site on reclaimed land to the south of the present airport.

The development of the proposed new site would not appreciably increase total annual capacity, but would tend to change the aircraft mix and type of operation and would also permit an I.F.R. operation.

The end result would mean that the airport classification could be changed from General Aviation Training



to General Aviation Itinerant, which would be a useful addition to the Toronto Area to satisfy an increased general aviation itinerant demand in the future.

#### King City

This airport is now used by the Toronto Flying Club for training and pleasure flying and by Dominion Helicopter as a base. There is a very low level of traffic at the moment and the capability of expansion is limited. Its location in relation to Toronto International Airport would preclude a large scale development at this airport.

#### Maple

This airport is primarily a training and pleasure flying airport. Itinerant activity is minimal. There has been some minor objections to the flying activity from persons in the surrounding area. This would tend to inhibit its growth potential. In any case, a high level of activity at Maple could cause conflicts with Toronto International.

#### Markham

Present operations at Markham are at a relatively low level. However, the airport operator anticipates a rapid increase in activity due to urban development in the area and other factors which he was not at liberty to divulge. While there is a great advantage in having growth potential at this airport for general aviation to the east of Toronto, further developments should be carefully watched to ensure that the interaction between Buttonville and Markham can be carefully controlled.

#### Welland

Welland at present does not have a significant amount of activity. The operators claim that the Welland Airport is in a better location to serve the Niagara Peninsula business firms than other airports in the Peninsula. The operators believe that the reason for the low level of activity is the short runways which are in poor condition. The commercial operator is considering rather ambitious plans for the future for his organization. In this respect he has carried out considerable market research and has access to adequate financial backing. If his plans come to fruition, the categorization of Welland may require reassessment.



One of the major deficiencies at most of the general aviation airports is the complete lack of weather briefing facilities. As can be seen from Table 4, the only airports which have weather briefing are Toronto Island and Waterloo-Wellington. The only satisfactory way of obtaining a reasonable weather briefing at other airports is by a long distance call to the Toronto International Airport weather office. However, if all the pilots conscientiously called for a briefing before each flight, the weather office would be unable to cope with the large number of calls.

The weather briefing deficiency will become even more serious as I.F.R. approaches are authorized at the airports where N.D.B.'s are being installed and as the general level of I.F.R. flying increases.

This aspect of general aviation operations requires a serious investigation. It may not be necessary for a complete weather briefing office to be placed at each airport, but a minimum requirement would be a teletype printer for weather sequences and a facsimile receiver for weather maps.

The requirements may be best be determined by a study by the Meteorological Branch with assistance from the Civil Aviation Branch.

Another of the problems which will be encountered in the development of a system of area airports is the fact that the Department of Transport operates only one airport in the Toronto Area, that being Toronto International. The remainder are operated by local public bodies or private operators. Since the Department has no direct control over the development of these airports, the airport operators should be encouraged to become involved in the planning for the airport system so that they may become aware of what future demands may make on their individual airports. This would enable the operators to take whatever action is required to meet future demands.

#### Airport Compatible Land Use Zoning

If we are to avoid the problems encountered in the past by urban encroachment on the airport environs and the ensuing noise complaints, it is imperative that the municipalities surrounding the airports be made aware of the necessity for compatible land use zoning for the land surrounding the airport area



The economic benefit of an airport to the surrounding communities is difficult to quantify, and many municipalities are reluctant to place restrictive zoning on what could be regarded as valuable building land solely to protect the airport. It should, however, be made quite clear to the municipalities involved that if adequate zoning is not agreed to, the airport might at some future date be constrained or even forced to close down. The Department should therefore be very cautious about financial outlays at airports for which compatible land use zoning has not been agreed upon.



CONCLUSIONS

1. The general aviation airports in the Toronto Area have collectively the capacity to meet the forecast demand for traffic until 1975-76.
2. Individual airports in the system such as Toronto Island, Buttonville and Hamilton are either at theoretical capacity at present or will be within the next three years.
3. The thirteen airports which account for most of the general aviation traffic at present, would appear to be the most suitable for future development.
4. With suitable further development, these airports would be capable of meeting the forecast demand well into the 1980s.



### RECOMMENDATIONS

1. The thirteen airports which account for the majority of movements in the Toronto Area should be used as the basis for the development of a system of airports which would separate traffic according to the use of the aircraft.
2. Further planning should be carried out to prepare the development of each area airport to meet the future demand and the type of traffic expected. It will also be necessary to develop a list of priorities for developing the various airports.
3. In the short term, ILS will be required at specified general aviation itinerant airports and improved meteorological facilities should be provided. The latter should be the subject of a study by DMB and DCA to determine the type of service required.
4. The operators of the general aviation airports should be included in the discussions of long-term planning so that they will be aware of the expected demand and the required development at their airports.
5. Municipalities surrounding general aviation airports should be encouraged to apply compatible land use zoning to protect the airports for future development.



APPENDIX A

SURVEY FORMS

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GENERAL AVIATION AIRCRAFT ARRIVALS SURVEY

SITE \_\_\_\_\_ DATE \_\_\_\_\_ WEATHER \_\_\_\_\_ VFR \_\_\_\_\_  
TIME \_\_\_\_\_ AIRCRAFT REGISTRATION \_\_\_\_\_ IFR \_\_\_\_\_

1. WHAT TYPE OF AIRCRAFT IS THIS? \_\_\_\_\_
2. HOW MANY PASSENGER SEATS DOES IT HAVE? \_\_\_\_\_
3. HOW MANY PASSENGERS DID YOU HAVE? \_\_\_\_\_
4. IS THE AIRCRAFT IFR EQUIPPED? YES \_\_\_\_\_ NO \_\_\_\_\_
5. DOES THE PILOT HAVE AN INSTRUMENT RATING? YES \_\_\_\_\_ NO \_\_\_\_\_
6. WHERE IS THE AIRCRAFT'S HOME BASE \_\_\_\_\_
7. WHERE DID THIS FLIGHT ORIGINATE \_\_\_\_\_
8. WHAT WAS THE REASON FOR THIS FLIGHT ?
  - a) Business
    1. Corporate \_\_\_\_\_
    2. Private \_\_\_\_\_
    3. Government \_\_\_\_\_
  - b) Pleasure \_\_\_\_\_
  - c) Training \_\_\_\_\_
  - d) Aerial Work \_\_\_\_\_
  - e) Charter \_\_\_\_\_
  - f) Other \_\_\_\_\_
9. WHY DID YOU CHOOSE THIS AIRPORT?
  - a) Close to Town \_\_\_\_\_
  - b) Meet Scheduled Airline \_\_\_\_\_
  - c) Aircraft Refueling or Servicing \_\_\_\_\_
  - d) Weather \_\_\_\_\_
  - e) Other \_\_\_\_\_
  - f) Home Base \_\_\_\_\_
10. DO YOU REQUIRE CUSTOMS? YES \_\_\_\_\_ NO \_\_\_\_\_
11. DO YOU REQUIRE FUEL? \_\_\_\_\_ TIE-DOWN? \_\_\_\_\_ HANGAR SPACE? \_\_\_\_\_  
OTHER SERVICING? \_\_\_\_\_
12. ANTICIPATED LENGTH OF STAY? \_\_\_\_\_



GENERAL AVIATION SURVEY  
AIRCRAFT OPERATORS QUESTIONNAIRE

COMPANY NAME \_\_\_\_\_

1. HOW LONG HAS YOUR OPERATION BEEN AT \_\_\_\_\_ AIRPORT?

2. WHAT TYPE(S) OF OPERATION DO YOU CONDUCT?

a)

b) IFR \_\_\_\_\_ VFR \_\_\_\_\_

3. WHAT NUMBERS AND TYPES OF AIRCRAFT DOES YOUR ORGANIZATION  
OPERATE FROM THIS BASE

<u>Type of Aircraft</u>	<u>Wheels</u>	<u>Floats</u>	<u>Amph.</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. WHAT IS YOUR AREA OF OPERATIONS (PERCENTAGE)?

0 - 100 miles \_\_\_\_\_

100 - 500 " \_\_\_\_\_

Over 500 " \_\_\_\_\_

5. ARE ALL YOUR AIRCRAFT BASED AT \_\_\_\_\_?

6. HOW MANY PILOTS DID YOU EMPLOY?

1967 Full Time \_\_\_\_\_

1962 " " \_\_\_\_\_

1957 " " \_\_\_\_\_

7. WHAT WAS YOUR TOTAL NUMBER OF EMPLOYEES?

1967 Full Time \_\_\_\_\_

1962 " " \_\_\_\_\_

1957 " " \_\_\_\_\_

8. a) NO. OF PASSENGERS \_\_\_\_\_ b) TOTAL ANNUAL HOURS \_\_\_\_\_



9. IS YOUR PRESENT AREA ADEQUATE

Size \_\_\_\_\_

Location \_\_\_\_\_

Facilities \_\_\_\_\_

Outside Tie-Down \_\_\_\_\_

Comments

10. WHAT AIRCRAFT DO YOU HAVE ON ORDER?

11. WHAT DO YOU ANTICIPATE YOUR REQUIREMENTS WILL BE IN 5 years?

Area - Size \_\_\_\_\_

Location \_\_\_\_\_

Facilities \_\_\_\_\_

Outside Tie-Down Space \_\_\_\_\_

Personnel - Total \_\_\_\_\_

Pilots \_\_\_\_\_

Aircraft \_\_\_\_\_

Comments

12. WOULD YOU RATHER MOVE TO ANOTHER AIRPORT OR STAY WHERE YOU ARE?

13. WHERE DOES MOST OF YOUR BUSINESS ORIGINATE?

14. WHERE AND HOW DO YOU OBTAIN WEATHER INFORMATION?

15. WHERE AND HOW DO YOU FLIGHT PLAN?



RESULTS OF SURVEYS AT NINE AIRPORTS IN THE TORONTO AREA

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BRANTFORD AIRPORT

BRANTFORD AIRPORT



## BRANTFORD AIRPORT

Brantford Municipal Airport is operated by the City of Brantford, through the Brant Norfolk Aero Club. Located at the site of a former air force base, the airport is five miles west of the city; access is by Highway 53.

### FACILITIES

The only fixed base operator is the Brant Norfolk Aero Club. They have hangar and storage facilities and, through a wholly owned subsidiary, operate the fuel concession.

The airport has three sets of parallel runways, the longest having been recently extended to 4000' by the City of Brantford. Runway lighting at night is available upon request.

It is a Customs port of entry for tourists (one hour notice required), and an N.D.B. is soon to be installed, at which time Brantford will have the designator FD.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

Of the total sample of aircraft arrivals:

51	or	59%	were local
36	or	41%	were itinerant
51	or	59%	were pleasure
27	or	32%	were training

It can be seen that 78, or 91%, were either pleasure or training arrivals. For only 9% of the arrivals did the pilots give business as the reason for their flights, and of these, most were concerned with private rather than corporate business.

Of arriving aircraft, 59% were based at Brantford.

Although 93% of the training trips were local flights, only 4% of the pleasure flights were local. Of the itinerant pleasure flights recorded during the survey, 25% were generated by aircraft based at Brantford, 52% by aircraft based within 30 miles, and 74% by aircraft based less than 50 miles from Brantford.

Customs was required for 2% of arrivals.



## B. LEVEL

The total surveyed sample size was 87 aircraft arrivals in the four-day period. This was the smallest of the nine samples collected and corresponds to the ranking of Brantford on the basis of reported movement figures. The following movements have been reported by the airport:

<u>Year</u>	<u>Movements</u>	
	<u>Total</u>	<u>Itinerant</u>
1967	25,892	1,780
1966	18,873	1,217
1965	23,921	902
1964	31,048	1,308
1963	26,831	1,426
1962	3,761	355

In the years 1963-65, a local gliding club was also based at the airport and its movement figures are included in the totals for those years. The gliding club subsequently moved to its own field at Rockton.

## OPERATORS

The Brant Norfolk Aero Club, the sole operator at Brantford Airport, conducts 4C, 7FT V.F.R. operations with six aircraft. All of the club's activity is within 500 miles of the airport and 80% of it is within 100 miles. There are five employees, two of whom are pilots. Club aircraft carried 35 passengers and logged 3015 hours in 1967.

Size, location, facilities and outside tie-down space are all felt to be satisfactory and no extra requirements are anticipated for the next five years except a runway extension of 1000 feet. They expect by this date to have increased personnel by three and aircraft by two. Flight plans are filed at Toronto International, and weather information is also obtained there.

## GENERAL

Brantford, centered in the Ontario tobacco growing area, is a minor tourist center, and also has considerable light and medium industry. These include a school bus assembly plant and farm machinery factory. Some of the hangar space on the airfield has been converted to industrial use, and the bus manufacturing company uses part of the airfield grounds. The airport is also used



by an aerial spray company for repair and maintenance purposes, but their activity during the survey period was very limited.

Most of the aircraft based at Brantford are of the small single-engine variety, several being in the ultra-light home-built classification.

It should be noted that the City of Brantford has shown considerable interest in the airport, not only in the runway extension projects, but also in providing services such as winter snow removal and summer runway maintenance.

Brantford then appears from the survey to fit well, with the other airports surveyed, into the training-pleasure category with a fairly low level of activity.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	USE OF AIRCRAFT			OTHER	
		TRAINING	PLEASURE	BUSINESS		
hourly Movements - 162 annual Movements - 250,000	355 or 100%	189 or 53%	131 or 37%	28 or 8%	7 or 2%	94 or 26%
	25%	17%	29%	57%	14%	36%
	17%	23%	6%	28%	14%	12%
	74%	92%	59%	25%	42%	- %
I.F.R. Equipped Aircraft	26%	8%	41%	75%	58%	- %
Instrument Rated Pilots						
Local						
Itinerant						
Reason for Choosing Airport:						
Close to Town (a)	2%	- %	4%	7%	- %	6%
Refuelling and/or Service (c)	3%	- %	4%	3%	- %	12%
Other (e)	5%	2%	5%	25%	- %	17%
Based (f)	90%	98%	87%	65%	- %	65%

BUTTONVILLE AIRPORT



## BUTTONVILLE AIRPORT

Buttonville Airport is located at latitude 43° 52' N and longitude 79° 22' W, about three miles east-south-east of Richmond Hill. Operated by Toronto Airways Ltd., the airport is operated under a public licence but is not I.F.R. equipped.

### FACILITIES

The airport has a tower which operates 0800 to sunset five days a week, and 0800-2300 for night flying Mondays and Tuesdays.

One of the two runways has an asphalt surface and is equipped with runways lights, the other is a turf strip:

03-21	2500' x 75'	Asphalt
14-32	2400' x 250'	Turf

Gas (80/87, 100/130) and oil are available at the airport, which is also prepared to handle major repairs. They have hangar and storage facilities, and Customs is available upon prior request.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

Of the arriving pilots interviewed during the four-day survey, 26% had been on itinerant flights. 53% of the flights had been made for training purposes, while 37% were pleasure trips.

Again it is seen that pleasure and training combined make up 90% of all arrivals. Business was given as the reason for the flight in 8% of the cases. As was the case in Brantford, private business predominated.

In considering itinerant arrivals only, this breakdown changes considerably. 57% were pleasure trips in this case, 21% for business purposes, and 17% were training flights.

Aircraft based at Buttonville comprised 90% of all the aircraft landing there. 25% of the total were instrument equipped.

92% of all training flights were local, as were 59% of pleasure flights.



Of the pleasure trips, 29% of the arriving aircraft were I.F.R. equipped, of training and business flights, 17% and 57% respectively.

#### B. LEVEL

Buttonville Airport has 158 based aircraft. In the four-day survey period, 355 arrivals were recorded.

Movement figures for 1967 are given as 157,028. Of these 34,450 were itinerant, which is approximately 21% of the total, in close agreement with survey results.

There was no tower in operation at Buttonville prior to 1967, and previous movement figures were not reported.

#### OPERATORS

There is only one fixed base operator at Buttonville, conducting 9-4B, 7 FT-RT type operations since 1963, both V.F.R. and I.F.R. equipped, with 29 small aircraft. 80% of the operations are within a 100 mile area, and 90% within 500 miles. Of 23 employees, 10 are full-time pilots. 96 passengers and 17,500 hours were flown in 1967.

Location is satisfactory, although size, facilities, and outside tie-down space are not felt to be adequate. They anticipate requirements for hangars, tarmac, and I.L.S. within the next five years.

Flight plans are filed at the tower, and weather information obtained directly from the Toronto Meteorological Office.

#### GENERAL

Most of the aircraft coming into Buttonville were single engined; light twins such as the Aztec were the largest seen to use the runways during the survey period. Customs was required only once.

Buttonville was one of the busiest airports studied, but its breakdown of activity by use of aircraft still followed the same pattern as the airports with lower levels of activity.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	USE OF AIRCRAFT			OTHER	
		TRAINING	PLEASURE	BUSINESS		
I.F.R. Equipped Aircraft	102 or 100%	34 or 33%	56 or 55%	4 or 4%	8 or 8%	34 or 33%
Instrument Rated Pilots	30%	9%	41%	50%	38%	29%
Local	47%	76%	32%	25%	38%	38%
Itinerant	67%	88%	63%	- %	38%	- %
Reason for Choosing Airport:	33%	12%	37%	100%	62%	- %
Close to Town (a)	4%	3%	2%	50%	- %	15%
Refuelling and/or Service (c)	5%	- %	5%	- %	25%	24%
Other (e)	10%	- %	13%	25%	25%	26%
Based (f)	81%	97%	80%	25%	50%	35%

GUELPH AIR PARK



## GUELPH AIR PARK

Guelph Air Park is situated at latitude 43° 34' N and longitude 80° 12' W, on Highway 7 northeast of Guelph, Ontario. It is operated under private licence by Guelph Air Services Ltd.

### FACILITIES

The airport has two runways with center asphalt and turf sides:

14-32	2500' x 100'
05-23	2100' x 100'

Lighting facilities consist of a rotating beacon, and electric single-row runway lighting on the southwest side of 14-32. Unicom 122.8 can be used during the day only. Fuel and oil, major and minor repairs, and storage are available. Customs can be arranged for tourists on prior request.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

At Guelph Air Park, training and pleasure flights made up 88% of the arrivals during the survey. 88% of the training flights and 63% of the pleasure flights were local.

Of the total arrivals, 33% were itinerant flights. Most itinerant pleasure flights originated from nearby airports such as at Kitchener or from private airstrips.

Customs were required only once during the survey period.

Most of the training instructors were instrument rated, although only the two C-172s were fully I.F.R. equipped, and these were used rarely since most of the training was carried out in C-150s. Overall, 47% of the pilots stated they had instrument ratings.

Most of the aircraft landing at Guelph Air Park were single-engine, but some light twins did arrive during the survey period.



B. LEVEL

Movement figures are available only from September 1967, but an adjusted yearly total estimate is 30,000 movements. There were 43 based aircraft at the airport.

OPERATORS

Guelph Air Services Ltd. have been at Guelph Air Park one year and conduct operations of 7F & RE, both I.F.R. and V.F.R. The two C-172s and three C-150s are used primarily for training and keep to within 100 miles of Guelph. In 1967, the eight full-time employees included three pilots. The total hours flown by the company was 3300.

Weather information is obtained from the Meteorological Office at Kitchener Airport and flight plans are filed by Long Distance telephone to the Toronto International A.T.C.

The present space at the airport was felt to be fairly adequate although location and outside tie-down space are satisfactory. Anticipated requirements for the next five years include a runway extension, an N.D.B., and an increase of 20% in area.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	TRAINING	PLEASURE	BUSINESS	OTHER	
Hourly Movements - 137 Annual Movements - 220,000	267 or 100%	117 or 43%	99 or 37%	32 or 12%	20 or 8%	80 or 30%
I.F.R. Equipped Aircraft	34%	21%	40%	22%	- %	49%
Instrument Rated Pilots	12%	15%	7%	29%	- %	18%
Local	70%	95%	40%	13%	- %	- %
Itinerant	30%	5%	60%	87%	- %	- %
Reason for Choosing Airport:						
Close to Town (a)	9%	- %	4%	67%	- %	29%
Refuelling and/or Service (c)	5%	1%	6%	6%	- %	16%
Other (e)	5%	1%	12%	- %	- %	16%
Based (f)	81%	98%	78%	27%	- %	39%



## HAMILTON MUNICIPAL AIRPORT

Hamilton Municipal Airport is located at latitude 43° 10' N, longitude 79° 56' W, near Mt. Hope, Ontario, which is about five miles south of downtown Hamilton, just west of No. 6 Highway. Operated by the Municipality of Hamilton, the airport is public licenced.

### FACILITIES

The airport does not have a tower in operation. Aircraft must have two-way radio, Unicom Simplex 122.8 to use the airport at night. There is a non-directional beacon and two of the three asphalt runways have lighting.

Runways:	06-24	6000' x 150'
	11-28	5188' x 150'
	16-34	3100' x 150'

Gas (80/87 and 100/130) jet B fuel, all grades of oil, hangar storage and tie-down, major and minor repairs are available. Customs can be obtained upon request.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

Pleasure and training, 37% and 43% respectively, include 80% of all arrivals. This is slightly lower than the 90% found at the three airports already discussed. Business flights form a larger percentage of the flights (12%) than at Brantford, Buttonville, or Guelph. (See Table 1.)

Of the total survey sample, 81% were aircraft based at Hamilton, and 95% were single engine planes. Itinerant flights comprised 30% of the total arrivals.

Local flights made up 95% of the training, and 13% of the business arrivals. Jet traffic at Hamilton is at about the level of one or two small aircraft daily. Customs, on an 'on call' basis, is required with about the same frequency. The airport is open for night flying two nights a week.

#### B. LEVEL

There are 129 aircraft based at Hamilton. 267 arrivals were recorded in the four-day interval, and



1250 movements. An average of 350-400 movements a day would give a June figure of about 12,000 movements. Movements for 1967 are given at 154,682, an increase of 10% over 1966.

#### OPERATORS

There are three aircraft operators at Hamilton conducting both I.F.R. and V.F.R. 6, 9-4B, 7FT, RF & PH. They operate 37 small aircraft, of which 2 are twin engine. 90% of their operations are within 100 miles of the airport. Together they have 26 employees 12 of whom are pilots. In 1967 these operators carried 156 revenue passengers and logged approximately 13,325 hours.

Location and outside tie-down space are felt to be adequate both for the present and for another five years. Although two of the three are satisfied with the present area, all foresee a growth in space requirements of between 30% and 100% over the present level by 1973, and anticipate a doubling of total personnel. All are agreed that present facilities should be expanded to include a new tower, I.L.S. and N.D.B.

Flight plans are filed at Toronto International, and weather information obtained from the Hamilton city weather office. None of the operators favour moving to another airport. They feel they are well located as most of their business originates in Metro Hamilton and area.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	TRAINING	PLEASURE	BUSINESS	OTHER	
Hourly Movements - 107 Annual Movements - 165,000	123 or 100%	73 or 59%	31 or 25%	17 or 14%	2 or 2%	63 or 51%
I.F.R. Equipped Aircraft	28%	11%	35%	82%	50%	37%
Instrument Rated Pilots	12%	1%	13%	41%	100%	19%
Local	49%	64%	26%	24%	50%	- %
Itinerant	51%	36%	74%	76%	50%	- %
Reason for Choosing Airport:						
Close to Town (a)	5%	- %	19%	6%	- %	6%
Refuelling and/or Service (c)	5%	- %	10%	6%	50%	10%
Other (e)	40%	36%	42%	59%	- %	60%
Based (f)	50%	64%	29%	29%	50%	24%



## OSHAWA AIRPORT

Oshawa Airport is located on the north-west edge of the City of Oshawa. It is owned and operated under a public licence by the municipality. There are two aircraft operators at the airport: the Oshawa Flying Club and J. V. Aviation Ltd.

### FACILITIES

The airport has no tower but does have an N.D.B. (A D.O.T. mobile tower operates there during the annual fly-in breakfast.) All runways are asphalt, 150' wide, and the two longest have lighting. The runway lengths are 3476', 2670' and 2650'. Liquid oxygen facilities are available as well as 80/87 and 100/130 avgas. The airport is a port of entry, on request, by tourists.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

Activity at Oshawa during the survey differed somewhat from that observed at other general aviation airports surveyed. Although pleasure and training accounted for 85% of the arrivals, there was among these a significantly higher proportion of itinerant arrivals. Training at Oshawa was 36% itinerant (compared with 5% at other airports). Oshawa is a favorite place for cross-country flying training from the other general aviation airports around Toronto. 74% of the pleasure flying was itinerant and 52% of these were from the Toronto airports - King City, Markham, Buttonville and Brampton. All but 22% were generated by aircraft based within the Toronto Area. Business flying accounted for 14% of the activity, however several business flights were for General Motors, bringing in parts and only occur for one week a year. Thus a possibly higher than normal business activity may have been observed.

#### B. LEVEL

Movement figures reported by Oshawa for 1966 and 1967 were:

<u>Year</u>	<u>Movements</u>	
	<u>Total</u>	<u>Itinerant</u>
1967	67,519	
1966	61,881	3,850



The surveyed sample size was 123 arrivals in the four-day period (during the hours covered). These figures, indicate that Oshawa falls between Malton and St. Catharines with respect to general aviation activity.

#### OPERATORS

The two fixed base operators currently employ eight full-time pilots, with a supporting staff of sixteen full-time and two part-time employees. Five part-time pilots are also employed. This is an increase of 100% in pilots over the last five years and a 50% increase in supporting staff over the same period. Neither operator was established before 1959. They flew a combined total of 9,176 hours in 1967.

#### GENERAL

The activity, while generally fitting the 80-90% pleasure-training for airports in the Toronto Area, does show significant differences from the apparent norm, especially regarding the amount of itinerant traffic observed during the survey. There are possible explanations for this. As far as pleasure flying is concerned, the distance between Oshawa and the four main general aviation airports around Toronto, coupled with an active flying club which has made the airport well known, probably makes the airport more appealing to the casual flyer, since the airport is as well equipped as any outside of Toronto.

The aircraft operators anticipate expansion of between 10% and 50% in the next five years, but they note that this expansion is tied in with the City of Oshawa Master Plan for the airport.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	TRAINING	PLEASURE	BUSINESS	OTHER	
Hourly Movements - 96 Annual Movements - 155,000	98 or 100%	24 or 25%	53 or 54%	12 or 12%	9 or 9%	38 or 39%
I.F.R. Equipped Aircraft	37%	25%	28%	75%	67%	55%
Instrument Rated Pilots	13%	8%	2%	50%	44%	34%
Local	61%	88%	68%	- %	33%	- %
Itinerant	39%	12%	32%	100%	67%	- %
Reason for Choosing Airport:						
Close to Town (a)	10%	- %	7%	33%	22%	29%
Refuelling and/or Service (c)	5%	- %	4%	8%	22%	13%
Other (e)	16%	12%	17%	34%	- %	42%
Based (f)	69%	88%	72%	25%	56%	16%



## ST. CATHARINES (NIAGARA DISTRICT) AIRPORT

Niagara District Airport is situated east of St. Catharines near the Queen Elizabeth Way at latitude 43° 11' N and longitude 79° 10' W. It is operated by the Niagara District Airport Commission under a public licence, night and day and I.F.R. St. Catharines Flying Club is the operator at the airport.

### FACILITIES

St. Catharines is a non-tower airport with three runways: 01-19, 2550 x 150' which is asphalt with no lighting; 06-24, 5000 x 150' asphalt with lighting; and 10-28, 2000 x 150' asphalt with no lighting. There is a small terminal building as well as a lounge at the Flying Club. Gas, servicing and hangar space are available.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

During the survey it was found that 12% were business flights, 54% were pleasure flights, and 4% were training. The training was 88% local and pleasure 68% local. Overall 37% of the planes were reported to have I.F.R. equipment and 13% of the pilots had an instrument rating. St. Catharines is used largely for local pleasure and training flights. Itinerant pleasure flights were not necessarily from nearby airfields but came from places like Montreal and Sarnia. Some aerial work was done from St. Catharines. Both heavy and light general aviation aircraft use St. Catharines.

#### B. LEVEL

There were 35,713 reported movements at St. Catharines in 1967, 4098 of which were itinerant.

There were 22 aircraft based at the airport.

### OPERATORS

St. Catharines Flying Club has been at the St. Catharines field for 40 years and conducts Class 6, 7, 9-4C V.F.R. operation with a fleet of six small aircraft (three 150s, one PA28, and one Citabria) which operate mainly within a 100-mile radius of the airport. In 1967



three pilots and nine employees were employed full time. Total annual hours flown were 4,535. Weather information is obtained and flight plans filed by Long Distance telephone to Toronto Met.

The operator reports that facilities at present are adequate although an I.L.S. would be a useful requirement by 1973.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	TRAINING	PLEASURE	BUSINESS	OTHER	
I.F.R. Equipped Aircraft	159 or 100%	24 or 15%	31 or 19%	86 or 54%	18 or 12%	124 or 79%
Instrument Rated Pilots	87%	96%	90%	90%	72%	89%
Local	78%	92%	35%	87%	88%	74%
Itinerant	21%	67%	23%	7%	22%	- %
Reason for Choosing Airport:	79%	33%	77%	93%	78%	- %
Close to Town (a)	13%	- %	12%	19%	6%	17%
Refuelling and/or Service (c)	5%	4%	9%	5%	- %	9%
Other (e)	35%	42%	41%	31%	33%	40%
Based (f)	47%	51%	38%	45%	61%	34%

TORONTO INTERNATIONAL AIRPORT (MALTON)



TORONTO INTERNATIONAL AIRPORT (MALTON)

FACILITIES

Toronto International, being a mainline international airport, has as far as landing aids and runways are concerned complete facilities for any aircraft now in service. General aviation activity is concentrated in two areas of the airport complex, both of which are more than a mile from Aeroquay Terminal Building. These are:

- a) Near the old terminal building adjacent to the Air Canada hangar. This area is used mainly by small privately owned aircraft using facilities provided by Genaire Ltd.
- b) The Skyport area near the end of runway 14. Here there is a complex of four large hangars, a heliport, 16 hours a day Customs office, several smaller hangars and complete fuel facilities provided by three competing companies. Due to the awkward location of the general aviation areas with respect to ground transportation to the city, the fuel companies provide courtesy vans to take clients to the aeroquay or to nearby hotels. There are also complete aircraft maintenance and servicing facilities, and it is this portion of the airport area which is most used by general aviation aircraft.

The existence of parallel runways 05L-23R and 05R-23L at opposite ends of the field means that 05R-23L is used for general aviation, and for much of the time this allows complete separation of general aviation aircraft from large airliners.

The airport is located just outside the Metropolitan Toronto boundary at the south-west end of the city, and access for general aviation is from Dixon Road (for Genaire) and the Skyport area from Dixon Road, through Malton Village and on a road past the Skyport area. This road is often used by sightseers to watch aircraft using runway 14-32. From this road two access roads lead into the hangar areas.



## GENERAL AVIATION ACTIVITY

### A. TYPE

An analysis of the questionnaires completed for arriving pilots during the four-day survey period shows a significant amount of business aviation. In fact, 54% of all activity observed, which included a Sunday, was business aviation. Even on Sunday, 28% of the pilots interviewed gave business as the reason for their flight.

Training and pleasure accounted for 15% and 19% respectively, of the total (34% training-pleasure), and of the pleasure flying 77% was itinerant. 6% of the activity was classed as charter flying and 6% fell into various other categories.

Of all aircraft surveyed, 42% (67) required Customs. This was 53% of the itinerant arrivals. However, only 11% of the total sample chose Malton specifically for Customs clearance.

47% of aircraft surveyed were based at Malton.

### B. LEVEL

The total sample size was 159 pilots, and it should be noted that weekend activity was about half what was observed on weekdays, during the survey. The busiest day was Tuesday when 65 pilots were interviewed between 0900 and 2100 hours. Peak periods of activity seemed to occur at a definite time, with an early morning peak (0900-1000), a noon peak (1200-1400), and a "just before supper peak" (1630-1800). Late night activity appeared to be negligible during the survey.

The amount of training activity was less than had been anticipated with only 24 of 159 aircraft being used for training even though D.O.T. instrument tests (counted as training) were being carried out at the airport.

Movement figures supplied for the Aviation Statistics Centre indicate the following picture of general aviation at Malton:

<u>Year</u>	<u>Itinerant</u>	<u>Local</u>	<u>Total</u>
1967	48,076	43,765	91,841
1966	47,047	37,646	84,693
1965	37,695	27,384	65,079
1964	33,567	21,002	54,569
1963	29,181	19,251	48,432
1962	30,849	18,524	49,373
1961	29,830	9,203	39,033
1960	27,036	38,768	65,804



These figures place Malton between Oshawa and Mount Hope in level of general aviation activity.

#### OPERATORS

General aviation aircraft operators at this airport have expanded remarkably in terms of employees and hence service in the past five years. The five largest aircraft operators were interviewed, and their questionnaire answers showed that over the past 5 years there had been a 70% increase in the number of pilots employed, and the total number of employees, including management, secretarial and maintenance staff had increased by 60% in the same period. Currently the five operators interviewed alone employ 125 people. The fixed based (e.g. service and maintenance) operators, with the other aircraft operators would increase the total number of employees related to general aviation by a considerable factor.

The operators interviewed now own 46 aircraft, though not all are based at Toronto International. They carried 5,107 passengers and flew 18,428 hours in 1967. A large percentage of operations were over 100 miles, many over 500 miles, depending on the type of activity, which varied from aerial survey work to international charter flight. Their business originated on a nationwide basis, though most is probably confined to Ontario.

All but one of the operators interviewed said that their current size and facilities were adequate for the present, but there were complaints about the location of the general aviation area, and the road access to the area. All operators anticipated considerable expansion in the next five years, though for some the expansion was tied to what facilities the Department of Transport would be willing to supply.

While individual operators differed in their estimates of activity for the future, the general feeling seemed to be that in five years they would double their current requirements.

All operators questioned would prefer to stay at Toronto International and it was suggested by some that a general aviation terminal and weather office at the Malton end of the field would be desirable. Currently, weather briefing and flight planning is done by phone to Toronto Tower, with pilots going to the main weather office only in the case of longer flights.



GENERAL

Obviously Malton is the business airport for the Toronto Area. This is not only indicated by the surveyed percentage of business flying but also by the fact that 77% of all pilots interviewed were instrument rated and 84% of the arriving aircraft were I.F.R. equipped. Most of the aircraft using the general aviation part of the field were light and medium business twins, or pleasure aircraft on lengthy flights. This indicates that pilots who can take full advantage of the instrument facilities at Toronto are using them, while less qualified pilots may be avoiding the airport because of the larger aircraft. A considerable portion of the business aircraft were jets. In total about 100 aircraft were based at the Skyport including some 10 business jets.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					ITINERANT ARRIVALS
	TOTAL	USE OF AIRCRAFT			OTHER	
		TRAINING	PLEASURE	BUSINESS		
Hourly Movements - 126 Annual Movements - 210,000	314 or 100%	183 or 56%	77 or 26%	35 or 11%	14 or 4%	81 or 26%
I.F.R. Equipped Aircraft	19%	- %	32%	77%	58%	65%
Instrument Rated Pilots	-%	- %	8%	46%	47%	35%
Local	74%	95%	61%	9%	47%	- %
Itinerant	26%	5%	39%	91%	53%	- %
Reason for Choosing Airport:						
Close to Town (a)	11%	2%	17%	46%	21%	41%
Refuelling and/or Service (c)	2%	-%	- %	6%	11%	8%
Other (e)	7%	4%	8%	26%	5%	26%
Based (f)	80%	94%	75%	22%	63%	25%

TORONTO ISLAND AIRPORT



## TORONTO ISLAND AIRPORT

Toronto Island Airport which is located on an island in Toronto Harbour is owned and operated by the Toronto Harbour Commission under public licence. Although the airport is only two miles from the downtown business section, it is necessary to take a ferry which crosses the western Gap. This operates every 15 minutes and from 0700 hours to 2300 hours. The airport has 72 based aircraft and one fixed base aircraft operator.

### FACILITIES

Toronto Island Airport has three paved runways with the following dimensions:

06-24	3000' x 150'
08-26	4000' x 150'
15-33	3000' x 150'

Of these runways, 08-26 has runway lights.

The airport has a D.O.T. operated tower and N.D.B.

Facilities for major and minor repairs are available as well as storage, fuel (80/87, 100/130, JP4) and oil (all grades).

There is a terminal building open to the public which houses the tower, airport administrative offices and some training facilities (link trainer).

During the summer, from May to November, a Customs officer is on duty at the airport from 0900 hours to 1700 hours.

The land-locked harbour to the east of the island is used as a seaplane base. There are wharves and mooring facilities for seaplanes as well as a seaplane ramp.

### GENERAL AVIATION ACTIVITY

#### A. TYPE

Toronto Island Airport is primarily a local training airport.



Of the 306 flights surveyed, 74% were local and 26% were itinerant, 14% of the itinerant were trans-border; however, many planes cleared Customs at Malton before going to Toronto Island. Training accounted for 57% of the activity with 95% being local touch and go. Pleasure flights amounted to 26% of the total, 61% of them being local; however, 56% of the pleasure flights were recorded on Sunday. Business was 91% itinerant and 11% of the total movements, the number of flights doubling on weekdays over the weekend. Charters were 2% of the total and all were itinerant while "other" flights were 5% of the total and 36% itinerant.

Most of the flights were in light single-engined airplanes. There were a few light twins, 2 or 3 medium twins and a smaller jet.

#### B. LEVEL

In 1967 Toronto Island Airport had 240,339 total movements of which 53,760 were itinerant movements. Since 1963 which had 186,601 total and 35,448 itinerant movements, there has been a steady increase in activity. Most of the local flying is touch and go training.

The total number of movements recorded during the four-day survey period by the Toronto Island tower was 3,656. 2,618 movements were recorded as local movements, and the other 1,038 movements were classified as itinerant.

The local movements are the touch and go's which are registered as two movements, one landing and one take-off. However, the initial take-off and the final landing are or appear to be registered as itinerant movements by the tower.

In the general aviation study, a local movement is defined as a movement in which the aircraft has not landed or does not intend to land at another airport or land or water aerodrome. An itinerant movement is a movement made by an aircraft which has taken off from or is intending to land at another airport or aerodrome.

Also in the general aviation study an arrival is defined as a movement in which the airplane lands, shuts down, and the pilot disembarks.

The number of A.T.C. arrivals was 1,829 - 520 itinerant and 1,309 local. The 1,309 local were touch and go, which do not seem to include the initial take-off and landing



The 1,309 A.T.C. local are not considered arrivals for the general aviation study purposes.

Of the 520 A.T.C. itinerant arrivals, 250 arrivals were general aviation study itinerant arrivals and 270 general aviation study local arrivals.

#### OPERATORS

The aircraft operator has 26 light aircraft based at Toronto Island, three of which are twin engined. The operator is licenced for Class 3, 4B C, 7, 5, 9-4, activity; 80% is within 100 miles of base, 15% between 100 and 500 miles, and 5% over 500 miles. There are 25 employees, 15 of which are pilots. The operator flew 23,641 hours in 1967. All present facilities are adequate except for access, the ferry being the main complaint. Over the next five years a 25% growth is anticipated, with corresponding increase in equipment and facilities.



# RESULTS OF AIRCRAFT ARRIVALS SURVEY

THEORETICAL CAPACITY:	CLASSIFICATION OF ARRIVALS					
	TOTAL	USE OF AIRCRAFT				ITINERANT ARRIVALS
		TRAINING	PLEASURE	BUSINESS	OTHER	
Hourly Movements - 113	185 or 100%	77 or 42%	81 or 44%	17 or 9%	10 or 5%	74 or 40%
Annual Movements - 175,000						
I.F.R. Equipped Aircraft	34%	18%	46%	47%	40%	51%
Instrument Rated Pilots	16%	25%	5%	29%	20%	16%
Local	60%	81%	53%	18%	30%	- %
Itinerant	40%	19%	47%	82%	70%	- %
Reason for Choosing Airport:						
Close to Town (a)	3%	- %	2%	18%	- %	5%
Refuelling and/or Service (c)	6%	3%	2%	6%	60%	14%
Other (e)	19%	14%	21%	41%	- %	46%
Based (f)	72%	83%	75%	35%	40%	35%

WATERLOO-WELLINGTON AIRPORT



## WATERLOO-WELLINGTON AIRPORT

Waterloo-Wellington Airport, located 10 miles east of Kitchener, is operated by the municipalities of Hespeler, Guelph, Galt, Waterloo, Preston and Kitchener under an I.F.R. day and night public licence.

### FACILITIES

There are two asphalt runways: 07-25, 3700'; 13-31, 4100'. The second has automatic lighting from dusk to dawn. On the approach to runway 13 is an N.D.B.

Avgas 80/87 and 100/130 are available as well as maintenance facilities for major and minor repairs. Customs are available if one hour's notice is given and the taxi fare paid for the Customs officer's trip to the airport.

### GENERAL AVIATION ACTIVITY

Pleasure (42%) and training (44%) accounted for 86% of the flight arrivals surveyed at Waterloo-Wellington Airport.

The greatest part of this activity was local training which accounted for 33% of the total flights, and 81% of the total training.

Business, the reason given for 9% of the flights in the four-day period, was 82% itinerant. Most of these flights originated at a distance of more than 50 miles from the airport, half at a distance of more than 100 miles. Business flights were divided into half corporate and half private business.

The percentage mix of flying was 60% local and 40% itinerant, with only one transborder flight requiring Customs.

In almost all types of flights 50% of the airplanes were I.F.R. equipped, training being the exception with only 18% I.F.R. equipped.

### B. LEVEL

There are 59 based aircraft at Waterloo-Wellington. In 1967 the airport reported 160,665 movements, of which 2,614 were itinerant. After 1962 (40,472 reported movements), the movements doubled each year until 1966, while



itinerant flying dropped steadily from 1,861 movements in 1962 to 1,575 in 1966.

Most of the movements are generated by touch and go training.

#### OPERATORS

The two aircraft operators at Waterloo-Wellington have a total of 17 based aircraft of which 3 are medium twin-engine aircraft. The operators are licenced for 7-RF, 4-BC V.F.R. and 7-FT, 4-B V.F.R. and I.F.R.

In 1967 they employed 15 people, 8 of whom were pilots who flew 49 passengers and 9,628 hours during that year. Three-quarters of their operations are carried out within 100 miles of the airport. In 5 years the operators estimate total employment to have increased to 38 with 14 pilots flying an additional 6 planes. They feel they need 50% to 300% more space.

Most business originates in the immediate area. Weather information is available from a D.O.T. Meteorological Office at the field, but flight plans must be telephoned to the Toronto International A.T.C.





